

THE DELAWARE^{AND} HUDSON RAILROAD BULLETIN



*"The
D.H."*

NOVEMBER 1, 1936

Thanksgiving

***H** EAP high the farmer's wintry hoard!
Heap high the golden corn!
No richer gift has Autumn poured
From out her lavish horn.*

*Let other lands exulting glean
The apple from the pine,
The orange from its glossy green
The cluster from the vine.*

*But let the good old corn adorn
The hills our fathers trod;
Still let us, for our golden corn,
Send up our thanks to God.*

—JOHN GREENLEAF WHITTIER.

*"The
D.H."*

The
DELAWARE AND HUDSON RAILROAD
CORPORATION

*"The
D.H."*

BULLETIN

Passenger Car Expert

Oneonta Worked 43 Years in Delaware and Hudson Shops

PRACTICALLY every Delaware and Hudson passenger train is a rolling testimonial to the craftsmanship and leadership of FRANK CLARK, coach shop foreman at Oneonta, who supervised their maintenance for 27 years prior to his retirement on pension, June 1, 1936. When he became foreman in 1909 most of the coaches had wooden underframes; they were lighted by from five to eight feeble oil lamps, and none had a closed vestibule. He directly supervised the reconstruction and modernization of many of the Delaware and Hudson's passenger cars as well as the repairs made to equipment purchased over a period of 30 years.

It took ten big coal stoves to heat one car repair shop at Oneonta in 1893 when MR. CLARK began his 43-year career in the Delaware and Hudson Car Department. Although this building, now steam-heated and used as the wheel shop, is relatively small, a man was kept busy through the winter days of the nineties shoveling coal into the fireboxes of the five stoves which lined each side wall. Even then there were days when the smoke-filled, oil torch-lighted shop was too cold for comfort. Only one man besides MR. CLARK now remains of the 35 employed there



FRANK CLARK

in 1893; he is OMER D. SIMMONS, now also retired.

Before beginning his long railroading career, MR. CLARK sampled various types of employment. When he was a boy, in the seventies, the major industry of his home town, Schoharie—they called it Schoharie Courthouse then—was farming, the principal products being hops, rye, wheat and fruit. Although FRANK attended school until he was 18, first in the district school and later at Schoharie Academy, he worked on his father's 100-acre farm from early boyhood, and earned his first wages working for neighboring farmers at the age of ten.

There was plenty of work for farm hands in the Schoharie Valley during the seventies and eighties. When FRANK could be spared at home he hired out to plant, hoe, or hill corn; or to grub-hoe, plow, hill, or train hop vines. Hops, it may be explained, were "trained" to grow to the top of 20-foot spruce, oak, cedar, or tamarack poles, as well as along twine strung between the poles which stood 4 feet apart each way. In September when the hops—leaf-covered, burr-like growths—formed at the top of the vines, they were picked, dried, and packed in 200-pound bales. They were

then sold to buyers who canvassed the territory each fall, the local farmers delivering them to the station of the then very busy Schoharie Valley Railroad. Later on the vines were cut from the poles and were burned as they were of no further value, while the poles were pulled up and stacked for the winter. All these operations gave work to many laborers in the hop fields during the spring, summer, and fall months.

Early in 1888 MR. CLARK'S father determined that his six children, four boys and two girls, should enjoy the advantages of life in the city so he went to Oneonta in March to look for a new home. He intended to return immediately but did not get back for three days as every form of transportation was paralyzed by the big blizzard of that year.

When the Clark family did move to Oneonta, FRANK went to work for George I. Wilber, who was then building the Oneonta Water Works. He helped to lay the water mains from the intersection of Main and Maple Streets to East End then up to the end of Maple Street.

When construction of the first Oneonta State Normal School was begun in the fall of 1888 Mr. Wilber was instrumental in getting MR. CLARK work on that project, and he continued there until the structure was completed up to the roof a year later.

At the Oneonta Table Factory, where he next found employment, he gained four and a half years' experience which was to prove invaluable to him in later years with the railroad. All types of kitchen, dining, and living room tables were machine-made

at this well-equipped plant, which employed 40 skilled mechanics. Although some tables were sold locally, many carloads were shipped to New York City annually.

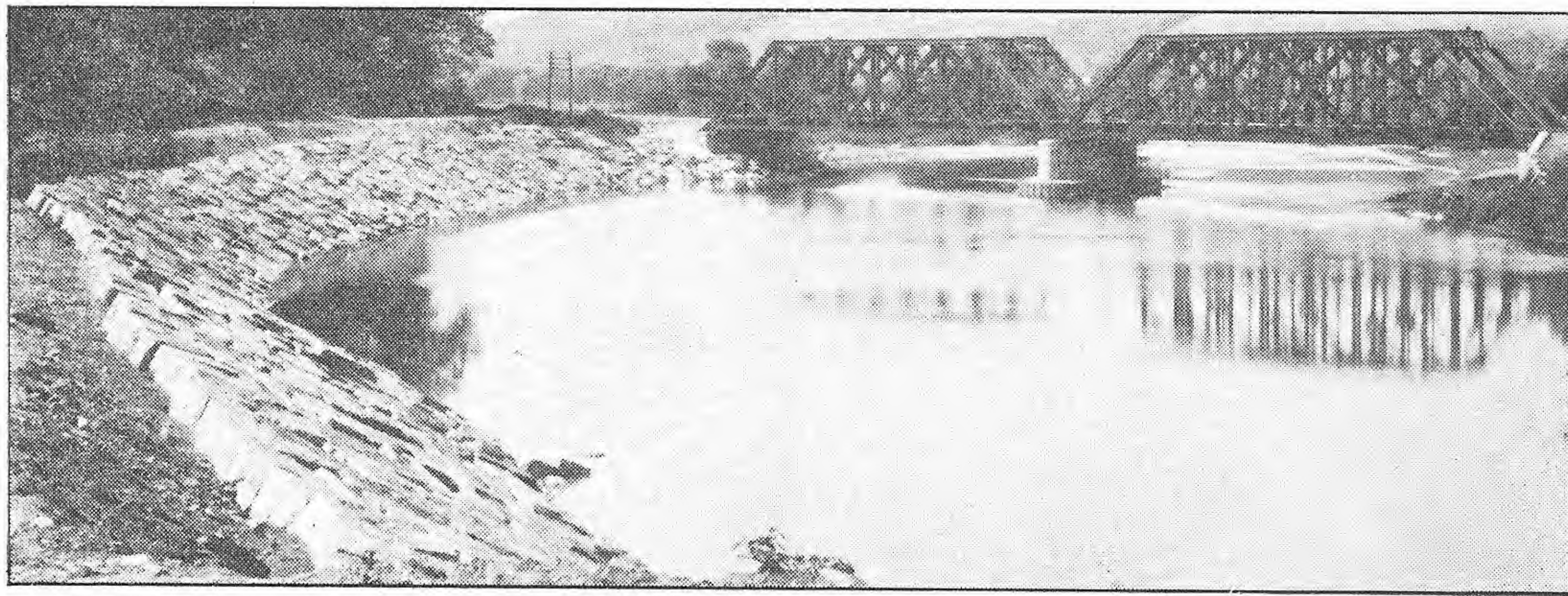
In 1893 MR. CLARK was hired by J. R. Skinner, Delaware and Hudson master car builder, to work under Foreman N. L. Hemstreet in the shop previously mentioned, where general repairs were then made to the small, low-side, 4- and 8-wheel coal cars of that day.

Later on MR. CLARK was transferred to the box car shop where he spent one year under the supervision of General Foreman Wing. They changed the draft gear on many of the 40,000- to 50,000-pound capacity box cars from Marx to Trojan couplers. The latter was, in MR. CLARK'S opinion, the first practical automatic coupler. Subsequently he worked in Shop 18 as assistant to Foreman James Slade; in the pattern room, which was built up among the rafters of what is now Shop 7; and he was eventually placed in charge of materials for the wood mill, it being his duty to keep a record of the various items used and to order replacements as required.

Next MR. CLARK supervised coach repairs under Coach Shop Foreman Charles Fryer. In 1909, when Mr. Fryer resigned, Master Mechanic G. S. EDMONDS selected MR. CLARK to fill the vacancy.

MR. and Mrs. CLARK, who have been married 39 years, own their own home at 151 Chestnut Street, Oneonta. They have one daughter, Helen, who is a teacher in the local River Street School. MR. CLARK is a member of the Delaware and Hudson Veterans' Association, The Elks, and the Car Department Supervisors' Association.

Ready for Spring Freshets



Delaware and Hudson maintenance forces faced the bank of the Susquehanna with stone to prevent scouring and subsequent damage to the bridges north of Sidney, N. Y., one of which was undermined last year.

What Do You Know About The

Railroad Retirement Act,

Its Cost and Benefits to You and Yours?

WHILE the possibility remains that all or part of the Railroad Retirement Act of 1935 may be sustained by the courts, this act merits careful study by all employees—and particularly the younger employees—to see whether it really serves their interests. First, to review the main provisions of the act:

The act provides a pension at age 65 for employees with 30 years' service. For example: \$75 per month, based on an average salary of \$150 per month; \$90 per month, based on an average salary of \$200 per month. Smaller pensions, at age 65, are provided for employees with less than 30 years' service, and for those retiring between ages 50 and 65 with 30 years' service. A disabled employee may retire at any age on full pension, provided he shall have completed 30 years of service. Income over \$300 per month is not taxed or recognized in determining the pension.

The 7 per cent tax bill ($3\frac{1}{2}$ per cent income tax on the employee and $3\frac{1}{2}$ per cent excise tax on the railroad which for the time being have been enjoined by the court) was designed to provide the necessary funds. The tax act expires February 28, 1937. However, we have no reason to believe that the subsequent tax bills will provide a lower rate. These taxes are to be paid into the United States Treasury and the payment of pensions is dependent upon appropriations from time to time by Congress. There is no "pension fund," although I shall use the term "fund" to indicate the amount which should have accumulated to the credit of the employee. The act is to be administered by a board of three members with salaries of \$10,000 each and a clerical staff.

An employee, starting at age 20, with an average salary of \$150 per month during his period of employment, will pay an average tax of \$63 per year for 45 years (if the act is sustained by the Supreme Court). This would total \$2,835. The \$63 per year, at 3 per cent interest compounded annually, would build up a fund of \$6,007. Doubled by the railroad company's contribution, the fund to his credit at age 65 would be \$12,014. If death should occur at age 65, his widow will receive \$37.50 per month *for one year only*, a total of only \$450. The balance of the \$12,014 fund,

i. e., \$11,564, will be retained by the U. S. Treasury and cannot be recovered by either the widow or the railroad company.

If he should die at age 49, his widow and children, who, with him, have sacrificed for 29 years to build up a "social security" protective fund of \$5,826 as required by the act, may be left destitute because they have no claim or title to this fund which has accumulated to his credit. The \$5,826 will remain in the United States Treasury for use in paying pensions to other more fortunate employees.

If forced to retire at age 49, after 29 years of service as the result of disability, he will be without compensation or benefit from the \$5,826 for 16 years if he lives that long. He may receive a pension of \$72.50 per month, based on 29 years service if and when he reaches age 65. He can leave the railroad after 30 years service at age 50, go into business until 65, and draw the same pension at 65 as the man who started at the same time and age, remained in railroad service 45 years until 65, paid \$63 per year tax for 15 more years, and whose fund will be \$2,413 greater than his own.

The young woman, starting at age 20, average salary \$100 per month, who leaves the service at age 30, having a fund of \$991 to her credit, will not receive any refund when she leaves. No refund will be made if she dies prior to age 65. If she lives beyond age 65, she may receive a pension of \$17.50 per month. Any service over 30 years is not recognized in calculating the amount of the pension, but the tax must be paid for the entire service period which will average around 45 years.

The employee who pays the tax from age 35 will actually contribute \$1,890 and would have a fund of \$6,174 to his credit. Compare this with the tax paid by the employee who starts at age 20. Each would receive \$75 per month at age 65.

THERE IS NO FAIR OR LOGICAL RELATIONSHIP BETWEEN TOTAL CONTRIBUTION, LENGTH OF SERVICE AND THE AMOUNT OF THE PENSION. The obvious discrimination against the young employee becomes more apparent as we analyze the figures for present-day employees, ages 40, 50 and 60. For example: the employee age 60, with 25 or more years' service, present salary \$200 per

month (30 years' average \$150), will only pay \$420, and have a fund of \$919 to his credit at age 65, yet he, and the employe with the same average salary, who retires in 1936 at age 65, having paid only a few dollars tax, will each receive a full pension of \$75 per month. Obviously, the young employe in the lower salary bracket, who can ill afford it, will be carrying the load.

A non-contributory and more attractive pension system, based on full service and the average salary for the last ten years is efficiently administered by the Southern Pacific Company at a cost, to the company, of 2.4 per cent of the payroll. The Retirement Act will take 7 per cent of the same payroll, representing an increase in cost of 180 per cent over the cost of the company's plan, i. e., \$2.80 Retirement Act cost vs. \$1 corporate cost.

STANDARD LIFE INSURANCE COMPANIES, ENGAGED IN THE PROFITABLE BUSINESS OF GUARANTEEING LIFE ANNUITIES AND INSURANCE, NOW PROVIDE VARIOUS PLANS FOR OLD AGE RETIREMENT, FAR SUPERIOR AND LESS EXPENSIVE THAN THIS COMPULSORY CONTRIBUTORY RETIREMENT ACT. For example, Male, age 20: the \$126 annual tax paid for the \$75 per month Retirement Act pension, would pay the premium on a guaranteed life income of \$110.67 per month for him at age 65, or, \$83.15 per month for him and \$83.15 per month for life for the surviving widow. (\$83.15 based on the assumption that they are of the same age, because the figure varies slightly with age relationship.)

Again, \$126 per year would buy a guaranteed "cash refund annuity," providing a monthly income of \$87.91 for life at age 65. At death, if after 65, the difference between the amount of income received and the maturity cash value to be paid to his heirs. If he elects, he will be paid the full maturity cash value of \$13,038 at age 65.

Each of these policies has a cash value. For example: \$8,158 at age 55; \$10,390 at age 60; and \$13,038 at age 65, and they each provide for the return of all premium deposits, or the cash value, whichever is the greater, to his dependents, if he does not survive to age 65. THE RETIREMENT ACT DOES NOT PROVIDE FOR A CASH VALUE AT ANY TIME. The sum of \$85 per year would pay the premium on a guaranteed pension of \$75 per month at age 65. This would also have a cash value.

If the employe, starting at age 20, leaves the railroad service after 10 years, he could take a commercial policy with him. It would be a written contract, something tangible, giving a sense of security and not dependent upon unforeseen conditions or future acts or appropriations of Congress.

However, with the $3\frac{1}{2}$ per cent income tax burden, he cannot afford a sufficient amount of guaranteed commercial protection and he cannot take his railroad Retirement Act fund or plan with him when he leaves. If he then desires a commercial policy, the premiums, during the ten-year period will have advanced approximately 40 per cent (age 20 vs. age 30) and it is little consolation to him then to hope that 35 years later, at age 65, he may receive his "Railroad Retirement Act" pension of \$25 per month.

The adoption of the Retirement Act was most unfortunate, for it is discriminatory, confiscatory, impractical, costly, fundamentally unsound and utterly devoid of any "security." There is no guarantee or certificate. The rates and provisions can be changed at will by Congress. One wonders whose welfare was in mind when it was drafted. Certainly not that of the young employe of today or the future.

The Supreme Court has thwarted one attempt at this sort of interference. However, the same bill, changed but more vicious is now the "Retirement Act of 1935." Employes should not ask the courts always to guard and preserve our rights in this matter, but should make use of the more logical remedy, i. e., an attack at the source by a direct appeal to our Congressmen and the employes representatives responsible for the framing of this act, for, if declared invalid, we may expect another attempt unless the offensive nature of the act is clearly impressed upon them.—E. F. Hull in *Railway Age*.

Wage Earner—Investors

THERE is no such a thing in America as an investors group, as a class distinct from those who work for a living. The reason it is impossible to make any such class distinction is that millions of citizens, wage and salary earners, also are investors.

They are owners directly through ownership of homes, real estate, bonds and stocks, or indirectly through savings bank accounts and insurance policies. Both the banks and the insurance companies invest in securities, and when securities are overtaxed or made worthless by legislation, then those who have bank accounts or policies are the sufferers. A number of our large corporations have more share-holders than employees.

These workers, through their thrift, are receiving, in addition to their wages and salaries, a share of the profits of industry. Damage industry and you hurt all who are dependent upon industry for a living.—*Hammermill Bond*.

Power Plant on Wheels

By A. I. LIPETZ

Chief Consulting Engineer, American Locomotive Company

(Continued from last issue)

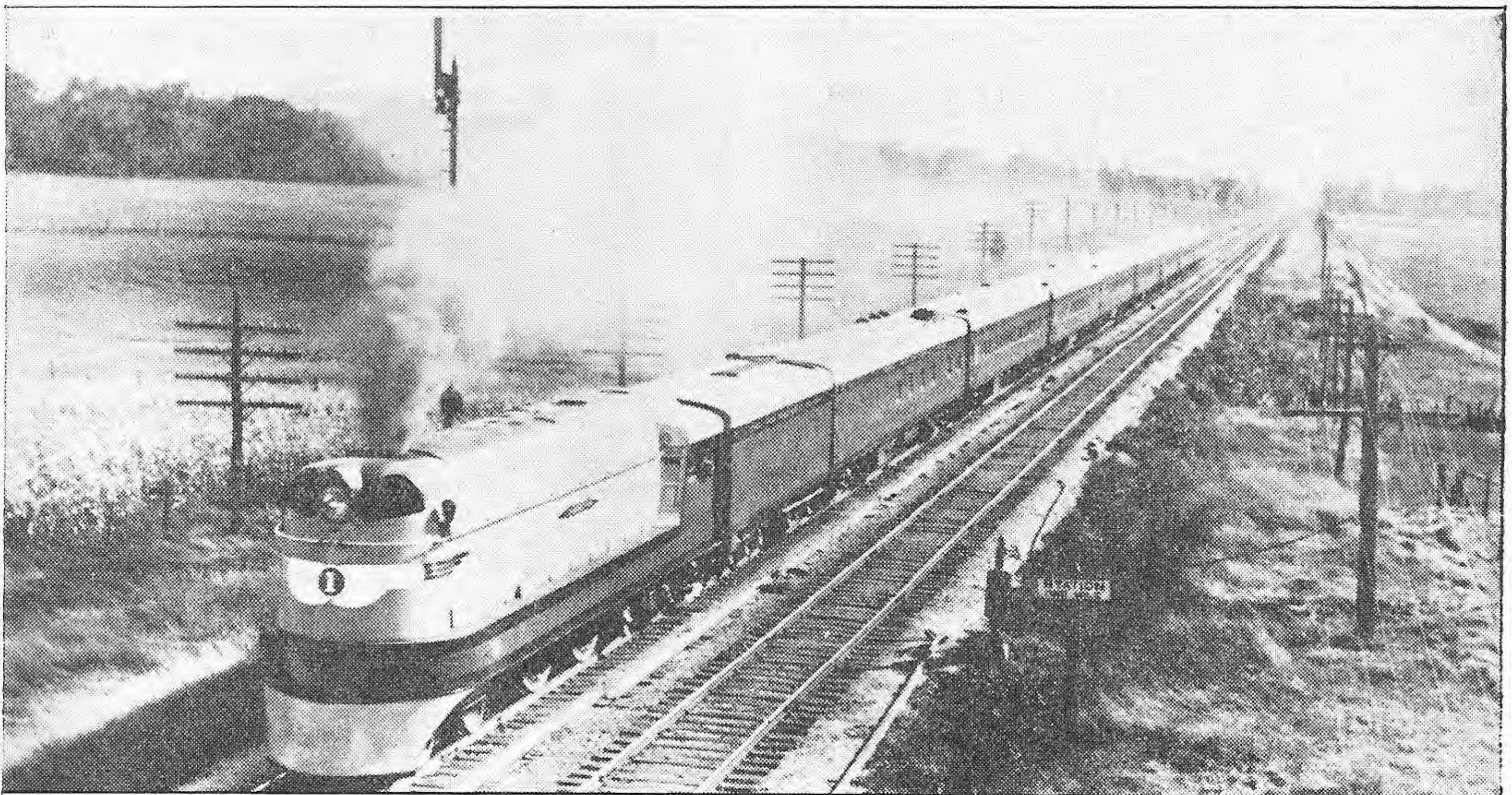
IF, after a century of development and research, the steam locomotive returned to the simple Stephenson design of the "Rocket," it is because the simple outlives the complex and affected. It is very easy to design a complicated locomotive; it is more difficult to build it; it is harder to make it work, but it is impossible for it to survive. During the hundred years of evolution, thousands of complicated locomotives were suggested, hundreds of them were built, dozens gave some reasonable service, but only units survived. And these are the ones that we are using now in everyday service.

Flexibility of the Steam Locomotive

I outlined above four peculiar features of the steam locomotive. Now we come to another peculiarity, which is probably its greatest advantage, second only to its simplicity. I am referring to the locomotive's flexibility. This is due mainly to the fact that the intrinsic characteristic of a steam locomotive, as represented by its tractive-effort-speed curve, is exactly what it should be for railway work. It has a large value at low speeds, good for starting heavy trains and a sloping line at higher

speeds, corresponding to an increasing power curve, necessary for acceleration and overcoming the train resistance, which also increases with the speed. This characteristic is the result of the expansive properties of steam and of direct drive, unobtainable, for instance, from a Diesel locomotive without a special transmission, electric or hydraulic. This peculiarity makes the steam locomotive invulnerable against the progress of time and competing power. About 30 years ago, when electric locomotives made their first appearance, it was thought that the steam locomotive was doomed to extinction. Electrification acted only as a spur, and an epoch of new improvements, refinement in design and perfection of the steam locomotive began, which resulted in developing steam locomotives up to 5000 hp. and speeds close to 100 mph. When recently the drive for high speed began and the German Diesel electric train "Flying Hamburger" was emulated in this country by the light-weight "Union Pacific" aluminum trains and the "Burlington" stainless steel "Zephyrs," the steam locomotive

(Continued on page 171)



"Hiawatha"

A MOST interesting series of addresses and informal talks featured the Twenty-Ninth Annual Meeting of the Delaware and Hudson Freight and Ticket Agents' Association at the Hotel Champlain, Bluff Point, September 10th and 11th. The sessions were opened by COL. J. T. LOREE, Vice-President and General Manager, who welcomed all present in behalf of the management and expressed the regrets of PRESIDENT L. F. LOREE at his inability to attend the meeting. COL. LOREE emphasized the importance of having everyone feel free to ask questions of any sort pertaining to the company and its business so that all could be in position to straighten out any misconceptions in the minds of the shipping and traveling public with which they came in contact in the course of their duties or otherwise. He then turned the meeting over to President EDWARD MARTIN who called for the report of Secretary-Treasurer BECKER which was accepted as read.

H. K. T. SHERWOOD, Purchasing Agent, then read a paper describing the work of his department, which will be printed in an early issue of *The Bulletin*.

MR. MARTIN next called on J. E. ROBERTS, General Traffic Manager, for information concerning the condition of the company's business at the present time. MR. ROBERTS stated that freight earnings for the first eight months of this year were about 14 per cent better than for the corresponding period of 1935, while passengers carried number twice as many as last year, the revenue from this business being approximately 25 per cent greater than last year. He attributed the increased business

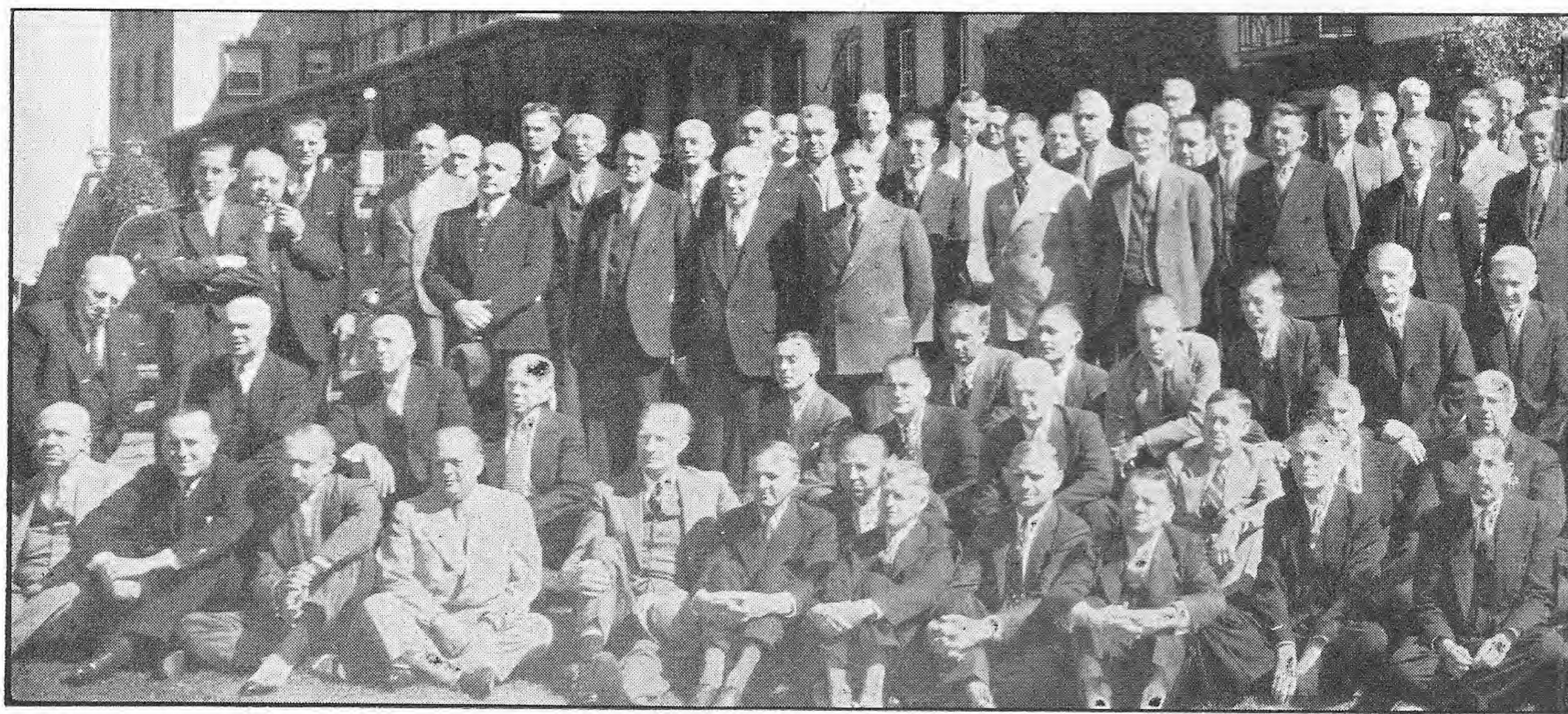
Our Progress :

As Described by Speakers at 29th Annual

in part to better conditions prevailing throughout the country but added that, despite the improvement shown, the railroad is not yet earning its fixed charges. In order to enjoy its former degree of prosperity the Delaware and Hudson requires the return of the anthracite business which it formerly enjoyed, a pick-up in the heavy industries of the country, and the resumption of trade with Canada on the basis of what it was prior to the institution of tariffs on American products formerly carried over our rails.

COL. LOREE, supplementing MR. SHERWOOD's paper, went into detail in describing how the items obtained by the Purchasing Department were ultimately used on the railroad. Reduction in the cost of materials purchased during the period of depression has been furthered by their economical use as well as by improved methods of construction and maintenance instituted by the company. He recalled the use of welded rail joints in which the Delaware and Hudson pioneered to prove that it is practical to have rails solid within the limits of signal blocks, or between turn-outs which necessitate the use of joints.

The six-year program of curve elimination at Comstock, whereby the rock removed from the new right of way was converted into ballast for main



and Problems

ial Agents' Meeting, Held at Bluff Point

line track, has recently been completed. Steel tie applications have been continued wherever practical and tests of second-hand flues as fence posts have proven so successful that these are being put in service as fast as they become available.

In addition to the program of rebuilding open-top freight equipment, 25 box cars were increased to 40 feet in length during the past year by lengthening the sills and applying pre-fabricated steel sides. Robinson connectors, which automatically couple air, signal, and steam heat hose between passenger equipment cars, have been in experimental service on one train since last spring. Thus far only minor difficulties have been experienced although the device must still survive the ice and snow of the coming winter before a decision can be reached as to its practicability. The first attempt ever made to use a connector of any kind took place on the Delaware and Hudson's Pennsylvania Division many years ago, its total failure resulting from the lack of precision machinery and proper materials at the time.

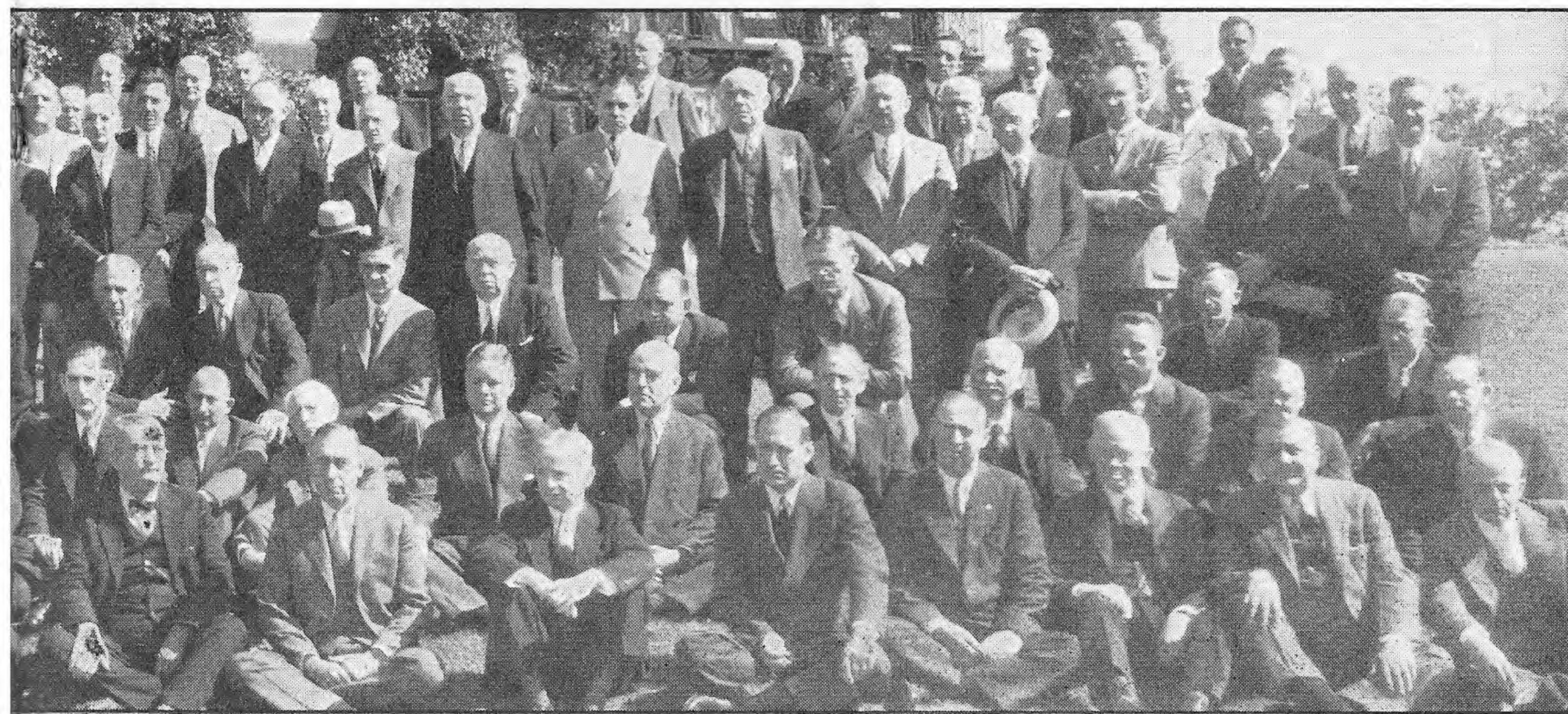
COL. LOREE referred to the completion of the air-conditioning of all Delaware and Hudson dining cars, remarking that similar action must eventually be taken with the coaches, although the management is not satisfied with devices now on the

market, it being felt that a complete change of air every three minutes is more necessary and effective than the chilling and recirculating of dead air within the car. One new light-weight hopper car built during the year actually surpasses the efficiency of the A. A. R. designs with regard to the ratio of weight to pay load without involving too drastic alterations in design or material.

Referring to the motive power, COL. LOREE spoke of recent experiments with locomotive 653, the cam-operated poppet valve mechanism of which enables it to operate normally with a cut-off of 5 to 7 per cent of the stroke of the piston, as compared to an average cut-off of 21 to 25 per cent for the conventional locomotive. Locomotive 653 has been successfully operated with a cut-off as low as 3 per cent.

Whereas it was formerly customary to shop locomotives for heavy repairs after 50,000 miles service, studies indicated that by redesigning various parts it should be possible to operate for 125,000 miles between shoppings. While progress has been made in obtaining the cooperation of railway supply companies in redesigning springs, air pumps, headlights and electrical generators, the fact that a locomotive contains some 17,000 parts makes the problem somewhat difficult. In this connection our company has worked for seven years to obtain the permission of the Interstate Commerce Commission to build a boiler all the joints of which are welded instead of being riveted. Such a boiler is now under construction and should be delivered during the coming month to undergo a series of rigid tests

(Continued on page 173)



The

Delaware and Hudson Railroad

CORPORATION

BULLETIN

Office of Publication:
DELAWARE AND HUDSON BUILDING,
ALBANY, N. Y.

PUBLISHED MONTHLY by The Delaware and Hudson Railroad Corporation, for the information of the men who operate the railroad, in the belief that mutual understanding of the problems we all have to meet will help us to solve them for our mutual welfare.

All communications should be addressed to the Supervisor of Publications, Delaware and Hudson Building, Albany, N. Y.

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November 1, 1936

No. 11

I have often heard it said as a common proverb, that a wise man may be taught by a fool. If you are not perfectly satisfied with the replies of the wise man, take counsel of a fool; it may be that, by so doing, you will get an answer more to your mind.

—RABELAIS.

She Knows!

WE customarily value personal opinions in accordance with the amount of actual experience with the subject at hand possessed by the giver of the opinion. Parents are loath to take instruction on how to bring up children from spinsters, bachelors or other "theoretical" sources of information, regardless of the excellence of their unprejudiced observations and conclusions.

If having "been through it" qualifies a person to speak with authority, the following letter should do more for the cause of accident prevention than could be accomplished by a score of orators or feature writers. Here it is:

"Did you ever receive a visit from the bumper of a car? Well, I did. I'll tell you how it occurred. One Friday night there was a whole crowd of children playing of whom I was among. We were playing hide-and-go-seek. I was across the street from the goal. I wanted to get home free, so across the street I ran. There was a car coming about three or four houses away. The next thing I heard was a lot of screams. I guess I drew a lot of children from their hiding places. Then all was dark. When I awoke I was in the hospital. The

nurse said I kept saying, 'I want to get home free.' My how I laughed! She told me my arm was broken. When I got out of there, I didn't play hide-and-go-seek without looking out for the cars. Don't you think that's the safest way?"

Ten year old Jeanne Marie Lucy of Plattsburg, writer of the above, was lucky to get off with a broken arm. It is probable that her description of her accident, which has been posted on the bulletin boards of the Plattsburg schools, will be instrumental in preventing many similar unfortunate happenings. Let us hope so.

Meanwhile, when driving in any community, there is always the possibility that a child at play will dart suddenly in front of your car. Are you *always* prepared for such an emergency? *Nearly* always is not good enough.

Criticism

LIFE is too short to be wasted in saying mean things about other people. Did you ever try to go a whole week without speaking unkindly to anybody? It isn't easy. It's astonishing the number of harsh things we say without actually meaning to make others uncomfortable.

Most of us are too critical in our attitude toward others. We criticise others for doing certain things, when half the time, were we in their place, we would do exactly the same or worse. You can never tell what you would do.

Try to take a generous view of other people's actions; even if you can't bring yourself to think kindly, at least control your tongue. It is merely a matter of habit. You get in the way of making spiteful remarks without realizing how much harm it does you.

Just try the scheme of refraining from unkind criticism. Try it for a week, anyway. It can't hurt you and it may do you a whole world of good.—*Hammermill Bond.*

Postponed

READERS who turned to page 152 in search of facts concerning the railroad and general conditions in the country as described in the account of the Agents' Meeting, as directed in the last issue, were temporarily disappointed. Unfortunately the account of the meeting was held over, due to circumstances beyond control, and appears on page 168 of this issue. Our previous assertion that it contains much valuable information still holds good. It's your opportunity to learn about what your railroad and its affiliated companies are doing.

Power Plant on Wheels

(Continued from page 167)

proved that her flexibility did not fail her in this challenge and that the steam locomotive can meet any competition, no matter from what quarter it may come.

High-Speed Steam Locomotives

In the latter part of 1934, the Chicago, Milwaukee, St. Paul & Pacific pulled a standard train weighing 388.5 tons, or more than three times the weight of any of the new Diesel electric trains, with a regular non-streamlined locomotive, at an average speed of 76.67 mph., comparable with those of the Diesel-electric trains. During this run speeds over 100 mph. were attained. Following this, on January 2, 1935, the Chicago & Northwestern put in service steam train No. 400, which is now doing regular service between Chicago and St. Paul, 408.6 miles in 390 min., at an average speed of 62.9 mph. The Chicago, Milwaukee, St. Paul & Pacific placed last year in regular service one pair of trains, known as the "Hiawathas," between Chicago and Twin Cities, a distance of 410 miles, in 390 min., an average speed of 63.4 mph., with six stops. Several signal stops are provided en route, which make it necessary to run at speeds in excess of 100 mph. The train has six cars with a regular seating capacity for 312 persons, about three times as much as the Zephyrs; nevertheless, two more cars are sometimes attached to satisfy the demand of the public.

Brake Equipment

The brakes on the locomotive are a power plant themselves. If we consider that the energy of a train running at 100 mph., or 146 feet per second, is equivalent to the energy of the train if dropped to the ground from a height of 330 feet, and that this energy, which is 320,000,000 foot pounds, has to be dissipated in about 60 to 70 seconds, we can imagine that the rate of dissipation is enormous. It is supplied by compressed air, stored in a reservoir of 50,000 cu. in. at a pressure of 140 lbs. per sq. in., supplied in the case of the "Hiawatha" by a Westinghouse 8-1/2" cross-compound compressor, which has a capacity of 150 cu. ft. of free air per minute.

All this energy is dissipated by friction of cast iron shoes, pressed against all the wheels of the locomotive and the cars. This is done by the abrasion of the shoes' material at a rate of 8300 hp. for 70 seconds.

For larger locomotives, for instance, freight engines handling long trains, more powerful equipment is used in that two pumps of the above size are placed on a locomotive.

Other High-Speed Steam Locomotives

Several other streamlined steam locomotives were built in this country. Most of them were slightly modified old locomotives, partly, or fully, shrouded. In England several modified Pacific (4-6-2) locomotives were built. They are hauling the fully-streamlined train "Silver Jubilee," which runs between London and Newcastle with an average speed of 67 miles an hour. Two locomotives were modified in France and three streamlined locomotives were built in Germany.

A very interesting small locomotive of the 0-4-0 type, with a boiler of 1450 lbs. pressure and an engine of 120 hp. has been recently built in Germany for high speed, light trains of the Lubeck-Buchen Railway. The engine is streamlined, has automatic boiler control and remote control from the last (second) car.

Thus the steam locomotive, after a hundred years of development in power, efficiency and speed, is again adapting itself to changing conditions of transportation. Moreover, it should be remembered that this remarkable machine can burn the cheapest fuel, can be built of cheap materials, and can be simply operated without the multitudinous appurtenances of a modern power plant. This plant on wheels, moving on rails, is subjected to all kinds of bumps and jerks, effects of bad weather, sand and grit, dust and dirt. Furthermore it does not get the vigilant care of a permanently assigned host of engineers, machinists and oilers of a modern power house; it is entrusted, for a certain number of hours at a time, to a two-man crew, soon to be replaced by another crew, which at the same time is burdened by observing signals and obeying rules of traffic, and—between trips—to roundhouse authorities, hostlers, mechanics, etc.

In conclusion I would like to quote a passage from a recent address delivered by Mr. William C. Dickerman at the Watt Bicentenary celebration in Philadelphia. He said:

"Bear in mind that this accomplishment (a 55% increase in power in the last 10 years without any increase in weight) of greatest utility value both to railroad management and to the cause of conservation of our natural resources, has been brought about without any widening of track gauge beyond that of the "DeWitt Clinton" and with practically no boring out of tunnels to increase the clearance diagram, and with the same width and height allowances that governed our ancestors.

"Finally, do not forget that this 4,000 horsepower "mobile power plant," the Steam Locomotive, weighing up to 200 tons or more, may be moving at speeds beyond 100

miles per hour; and, for all of its locomotive wheels, has an actual physical contact on the rails, of less than 10 square inches" which is about the size of a man's foot.

Diesel Power on Rails

The Diesel Locomotive appeared first in this country in 1925 in switching work, which is the natural field for the Diesel. As it is known, the overall thermal efficiency of the switching steam locomotive is very low, on account of the long cut-off used in cylinders and the intermittancy of work. But, probably more important than this are the stand-by losses which are due to the fact that the switching steam locomotive has to carry steam and burn fuel when held in readiness for work, while the Diesel locomotive can be shut down between two tricks. There are at present 145 Diesel locomotives on American roads, practically all with electric transmission for the variation in torque and speed.

The consumption of Btu in Diesel-electric locomotives is about 1:10 to 1:8, as compared with coal, but in view of the lower cost of coal, this figure corresponds to 1:6 or 1:5, depending upon the relative cost of fuel. The actual economy (saving in cost) including fuel and other expenses such as wages, maintenance, lubrication, etc., is about 30 to 50 per cent of the total cost of operation. This is sufficient to cover the fixed charges on the higher cost of the Diesel-electric locomotive, if the latter works 7 hours per day. The majority of Diesel-electrics in this country work 24 hours a day with three shifts.

Larger Diesel locomotives for transfer work, with engines up to 2000 hp., have been built lately, as well as two 1800 hp. and two 3600 hp. locomotives for fast trains. They are engined by 900 hp., 12-cylinder Winton two-cycle engines and have electric transmission.

Quite recently the Diesel engine made large strides along the road of its application to high-speed rail transportation. Since the experiment made by Kruckenberg with his light-weight car, the Rail-Zeppelin, with which a speed of 143 mph. was attained, the highest speed on rails ever recorded, high-speed rail transportation became a possibility. In September, 1932, the German "Flying Hamburger" was placed in regular service. This train covers 178.3 miles between Berlin and Hamburg in 138 minutes, with an average speed of 77.2 mph. The power plant of this light-weight train consists of two 410 hp. Maybach Diesel engines with two generators. The power plants are placed on the first and the third trucks of the train, which

is made up of two articulated cars on three trucks; the motors are carried by the middle truck.

In February, 1934, the Union Pacific placed in service its light-weight, three-unit, aluminum train on four trucks and shortly afterwards the Chicago, Burlington and Quincy started its first "Zephyr"—a similar train but made of stainless steel and manufactured by the specially developed "Shot-weld" process. The first was propelled by a 600-hp. distillate burning engine, while the other had the Winton 600 hp. eight-cylinder Diesel engine. Several more 600-hp. Diesel-propelled trains of the aluminum and stainless steel type followed in this country. Likewise, 13 duplicates of the "Flying Hamburger" 820-hp. train, and 4 three-car, 1200-hp. trains were placed in service in Germany. The Union Pacific now has in service a seven-car aluminum train engined by a 1200-hp. Diesel engine and an 11-car train with a power plant of 2400 hp. The Burlington Railroad also placed an order for two four-car and two ten-car trains of stainless steel. Thus the high-speed, light-weight trains are gaining popularity all over the world.

The result of operation have not yet been published, but there is no doubt that these trains must be giving satisfaction at a reasonable cost. However the Diesel engine for road, passenger and freight service is still in its experimental stage.

A Master Printer

WHEN Benjamin Franklin was 19, he visited London. He was in search of work, and having learned the printer's trade, went straight to a printing office and made known his errand. The foreman was rather disdainful and said:

"Ah, a lad from America seeking employment as a printer! Well, do you really understand the art of printing? Can you set type?"

Young Franklin stepped to one of the cases, and in a brief space set up these words from the first chapter of John's Gospel:

"Nathanael said unto him, 'Can any good thing come out of Nazareth?' Philip said unto him, 'Come and see'."

The text conveyed such a delicate rebuke, and the work was done so quickly and accurately, that a position was given him at once.—*Rays of Sunshine.*

Quite Obvious

Chase: "The doctor says there's something the matter with my head."

Mrs. Chase: "You don't mean to say you paid a doctor to tell you that?"

Our Progress and Problems

(Continued from page 169)

before being mounted on a locomotive. Welding should be safer than riveted design since it eliminates the working and corrosion of the boiler plates which normally take place under the lap of the joints, also eliminating the distortion caused by the double thickness of metal at a riveted joint, all welded joints being of the butt-type in which the ends of the plates are held together in perfect alignment instead of lapping over.

Perhaps the best indication of the improvement in maintenance standards throughout all departments of the railroad is the reduction in the amount of fuel required per 1,000 gross ton miles. In 1923 240 pounds of coal were required to move 1,000 gross tons one mile, whereas in June 1936 only 120 pounds were needed, thus cutting in half the largest item of expense of the Purchasing Department, assuming no change in the price of coal meanwhile. COL. LOREE emphasized the fact that this improvement was due not only to increased efficiency of the locomotive but also to better track, reduced grades, improved alignment and surface, lubrication and inspection of cars, in fact the combined efforts of all departments. In view of the record with regard to coal consumption it seems possible that corresponding savings may be made with regard to other materials purchased.

D. A. LOOMIS, General Manager of the Champlain Transportation Company, addressed the second session, giving a most interesting and whimsically humorous account of his service with the company on the steamboats on Lake George and Lake Champlain as well as a short period during which he was employed at the station at Poultney, aggregating 50 years up to this July and with every prospect of continuing for some time to come.

F. W. LEAMY, Vice-President, spoke concerning the financial status of the Delaware and Hudson Company and its three principal subsidiaries, the railroad, the Hudson Coal Company, and the Chateaugay Ore and Iron Company.

An increase in the railroad's earnings has been going on for the past three or four months and its gross revenues for August are practically 20 per cent better than for the same month of 1935. MR. LEAMY expressed the fear that this improvement was probably artificial to a considerable extent because of expenditures of large amounts of federal funds which cannot continue indefinitely, although business may pick up in a normal way without further artificial stimulation.

There has been some improvement in the reduction of price cutting within the anthracite industry

and the introduction of machinery in the mines has enabled the Hudson Coal Company to improve earnings about 30 cents per ton without increasing the circular price to the public.

The physical plant of the Chateaugay Ore and Iron Company naturally divides into four parts: (1) the mines, (2) the mill where the rock is removed from the ore, (3) the sintering plant where the concentrated ore is fused into larger chunks, and (4) the blast furnace which produces pig iron. Since the capacity of the first three exceeds that of the blast furnace, the latter became a bottle-neck which restricted the Company's production so that it has been necessary to seek a market for that part of the sintered ore which could not be used by the blast furnace. In 1934 15,000 tons of sintered ore were sold while in 1935 this was increased to 25,000 tons. Thus far in 1936 91,000 tons have been disposed of and a recent order for 150,000 tons assures that the mine, mill, and sintering plant will operate at capacity for the next ten months. The sale of pig iron thus far is four months ahead of last year so that the prospects for this company are excellent at the present time.

Turning from this relatively pleasant picture, MR. LEAMY stressed the seriousness of the general tax situation for all present and referred particularly to the new taxes recently laid on business. During the four-year period 1932 to 1935, inclusive, the Delaware and Hudson properties, unable to earn one cent, paid out in taxes \$9,700,000, whereas in 1929 at the peak of prosperity, with a net income of \$7,200,000, taxes paid amounted to but \$3,000,000. It should be noted that while paying out nearly \$2,500,000 per year in taxes in recent years, the company has been paying no income tax because of having had no income; in fact, it was compelled to borrow from banks to pay its taxes during this period.

Two new forms of corporate taxes have recently been levied: a Capital Stock Tax and an Excess Profits Tax. Under the former, a corporation is required to place an arbitrary value on its capital stock, whereupon a tax of \$1.00 per \$1,000. of such value is assessed. The Excess Profits tax is then assessed on the year's earnings in excess of a percentage of the declared value of the capital stock. Thus, if a low value is placed upon the stock, a small capital stock tax is paid, but a very high excess profits tax may be paid; and, of course, the reverse is also true. This form of taxation is most insidious as it is based not upon known values, or known earnings, but rather upon a guess as to what future earnings may be. However, the crowning action is the present move to put heavier and

heavier tax burdens on corporations which was taken last summer when Congress passed a law penalizing the retention of current earnings. This law strikes at the very heart of prudent management, in that it makes it practically impossible to provide for the payment of bank loans, necessary additions and betterments to the property, etc. The management is deprived of any choice, since Congress says, in effect, that unless the full earnings of each year are passed on to the stockholders (so that larger taxes can thus be assessed against the individual stockholders), a large portion of such current earnings will be taken away from the corporations under this law.

MR. LEAMY closed his remarks by urging that all present work to bring about a curtailment of public expenditures in their local communities in order eventually to obtain a reduction in the tax burden now borne by all.

Following the adoption of resolutions of gratitude to the management that the association was enabled to hold so enjoyable a meeting, and regret that PRESIDENT LOREE was unable to be present, as well as appreciation of the remarks of COL. LOREE, VICE-PRESIDENT LEAMY, MR. SHERWOOD, and MR. LOOMIS, the meeting adjourned.

Just For Today

JUST for today I will try to live through this day only, and not tackle my whole life problem at once. I can do some things for twelve hours that would appall me if I felt I had to keep them up for a lifetime.

Just for today I will be happy. This assumes to be true what Abraham Lincoln said, that "most folks are about as happy as they make up their minds to be."

Just for today I will adjust myself to what is, and not try to adjust everything to my own desires. I will take my "luck" as it comes, and fit myself to it.

Just for today I will try to strengthen my mind. I will study. I will learn something useful. I will not be a mental loafer. I will read something that requires effort, thought and concentration.

Just for today I will exercise my soul in three ways: I will do somebody a good turn, and not get found out; if anybody knows of it, it will not count. I will do at least two things I don't want to do * * * just for exercise. I will not show anyone that my feelings are hurt; they may be hurt, but today I will not show it.

Just for today I will be agreeable. I will look as well as I can, dress becomingly, talk low, act

courteously, criticise not one bit, nor find fault with anything, and not try to regulate or improve anybody.

Just for today I will have a program. I may not follow it exactly, but I will have it. I will save myself from two pests: hurry and indecision.

Just for today I will have a quiet half hour all by myself, and relax. During this half hour, some time, I will think of God, and try to get a better perspective of life.

Just for today I will be unafraid. Especially I will not be afraid to enjoy what is beautiful, and to believe that as I give to the world, so the world will give to me.—*Front Rank.*

Crossing Bridges

A YOUNG man went to an expert business advisor and said, "I have been three years on the same job. I feel that I am lost sight of by my employers. What shall I do?"

The expert answered, "What suggestion can you make to your employer that will help him increase his sales by \$50,000, \$5,000, \$500, or even \$100? Think this over and come back in a month."

At the end of thirty days the young man reported that he had not been able to think of any plan.

"All right," said the expert, "now try your best to discover some way by which your employer can in the next year save \$5,000, \$500, or even \$50 in the cost of running his business."

At the end of the second month the young man admitted failure, and said he had decided not to ask for any more advice.

Then his advisor said:

"Well, this time I am going to give you some advice without your wanting it. Just think a moment where you stand. With the enormous business being done in your line you are not able to increase it by even \$100 a year; with the wasteful methods in that business you are not able to point out how even a small sum may be saved. You had better lie low and not let your employer know that you have been working for him so long without having a single idea how to improve your work."

That young man is like thousands who have never developed their imagination. We are told "never to cross a bridge until we come to it"; but this world is owned by men who have "crossed bridges" in their imagination far ahead of the crowd.—*The Branding Iron.*

Clicks from the Rails

Snakes

have recently given two railroad men the scare of their lives. Southern Pacific Signalman Bill Gleason's motor car ran over a small tumble weed on the track and a big rattlesnake was thrown up around his neck in some unexplained manner. Alfred Naylor, a shop worker, sat down at home one evening to enjoy his radio but it refused to work when he turned the switch. Looking inside, he saw what appeared to be a stocking wrapped around one of the tubes. When he went to remove it he was bitten by a 36-inch bull snake. Next time his radio gets out of commission he is going to call Frank "Bring-Em-Back-Alive" Buck to fix it.



Business is Good

on the Pioneer & Fayette Railroad, a 13-mile line linking Pioneer and Fayette, Ohio. Its single motor-driven train, which operates on Mondays, Wednesdays, and Fridays only, has hauled 523 carloads of freight to date this year as compared to 406 in 1935. Earl S. Snyder is president, engineer, conductor, and maintenance supervisor.



One Pullman Car

generates for its own use enough electricity to supply approximately four ordinary homes. As current is generated only when the car is in motion, it has to be equipped with batteries of sufficient capacity to supply the electrical demand during long stop-overs.



The Largest Camera

ever built, weighing 7,560 pounds, recently moved by Railway Express from the builder's plant in Chicago to the Division of Engineering and Printing, Washington, D. C. The camera, designed for making photostats of maps, was shipped in 24 separate pieces.

Two Escaped Drowning

in the Appomattox River, near Petersburg, Va., recently through the alertness of two N. & W. shopmen. While crossing the river on a pipe line both a man and a woman slipped and fell into the water. Hostler F. L. Farris, noticing them struggling in the water, hurried to their aid, summoning Gang Leader P. J. Brennan as he ran. The two railroaders succeeded in pulling the couple to the river bank.



A New Definition

fell upon the surprised ears of contestants in the national spelling contest recently held at Washington, as well as the far flung radio audience listening in, when the "conductor" (we use the word advisedly, perhaps) pronounced the word "calaboose" and defined it as "the last car of a freight train." He is probably one of the "educators" who fill the books with praise of inland waterways.



Kisses Delay Trains

to a serious extent on some runs, a Boston and Maine conductor reports. When a train stops at a number of stations at each of which from 50 to 75 fond fathers pause to kiss each member of the family good-bye after the train arrives, considerable delay is entailed. This was his explanation for arriving ten minutes late in the North Station, Boston, on several occasions.



Washington Union Station

was converted into a banquet hall seating 3,000 guests at the Third World Conference on Power dinner served in September. When it was learned that there is no ball room in the Capital large enough to accommodate such a crowd, arrangements were made to use the big station.

The Oldest Railroader

in the world, both in age and length of continuous service, is John M. Horan, 98, boiler washing inspector, who was recently awarded a gold button by Vice-President Gillick upon the completion of 81 years with the Milwaukee. Born at Burlington, Vt., January 23, 1838, Mr. Horan entered the employ of the Milwaukee & Mississippi R. R., one of the first units of the present Milwaukee System, April 17, 1855. He is still erect, walks with a firm step, needs no glasses, and works every day. He is affectionately known to fellow-workers as "Soda Ash Johnny" as he originated the use of soda ash in the treatment of water in locomotive boilers.



The D. & H. Twins

Dinah Delaware Richards Jones and Catherine Hudson Richards Jones, so named because they were born on a Delaware and Hudson Gravity Railroad train 67 years ago, were present at the recent Welsh Day celebration at Scranton. The children were born while their mother and five other children were making the last lap of the journey from Europe to Carbondale, a doctor, a woman passenger, and the train crew assisting at their birth. Each was presented with \$10 and a medal by the company.



7,000 Electric Locomotives

have been built in the General Electric's Erie, Pa., plant since it was built just 25 years ago, in 1911. They have ranged from 1½ to 300 tons in weight and have been designed for every possible type of service. They varied in gage from 18 inches to 7 feet. It is the only plant in the world where electric locomotives are manufactured complete, including both electrical and mechanical parts, in one factory. More than 100,000 transportation motors of all descriptions have been built at Erie.

If-ing

*D*ON'T be an idle "if-er,"
For he's the man, you know,
Who'd pitch right in and surely win
"If" so and so were so.
But while he is a-if-ing,
The one with sweaty brow,
Ignoring "ifs," goes in and lifts
And conquers anyhow.

—SELECTED.